

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	
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Isabelle ROLLAT et al.)	Group Art Unit: 1611
)	
Application No.: 10/023,330)	
)	Examiner: Gina C. Yu
Filed: December 20, 2001)	
)	
For: RESHAPABLE HAIR STYLING RINSE)	Confirmation No.: 5705
COMPOSITION COMPRISING)	
(METH)ACRYLIC COPOLYMERS)	<u>VIA EFS-WEB</u>

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

REPLY BRIEF UNDER 37 C.F.R. § 41.41

Pursuant to 37 C.F.R. § 41.41, Appellants present this Reply to the Examiner's Answer dated October 29, 2008. A Request for Oral Hearing is concurrently filed with this Reply Brief.

Appellants do not believe that a fee is due in connection with the filing of this paper. However, if any fees are required in connection with the filing of this paper, Appellants request that the required fees be charged to Deposit Account No. 06-0916.

REMARKS

I. STATUS OF REJECTIONS

In response to the Appeal Brief filed August 5, 2008 ("Appeal Brief"), the Examiner maintained the rejection of Claims 167, 168, 171, 172, 174, 175, 177, 178, 180, 181, 185-191, 193-203, 205-208, 210-216, 218-228, 230-240, 242-245, 247-253, 255-258, 260-266, 268-278, 280-290, 292-302, 304-307, and 309-311 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,019,377 to *Torgerson* et al. ("*Torgerson*") in view of U.S. Patent No. 6,013,722 to *Yang* et al. ("*Yang*"). See Examiner's Answer of October 29, 2008 ("Answer") at 3.

II. RESPONSE TO EXAMINER'S ARGUMENTS IN THE ANSWER

A. Claims 167, 168, 171, 172, 174, 175, 177, 178, 180, 181, 185, 186, 190, 191, 193-198, 202, 203, 205-208, 210, 211, 215, 216, 218-223, 227, 228, 230-235, 239, 240, 242-245, 247, 248, 252, 253, 255-258, 260, 261, 265, 266, 268-273, 277, 278, 280-285, 289, 290, 292-302, 304-307, and 309-311 Are Patentable Over *Torgerson* in View of *Yang*

- 1) *Motivation Lacking For Combination Suggested By The Examiner Because Consideration Of Prior Art As A Whole Teaches Away And There Is No Reasonable Expectation Of Success.*

In the Answer, the Examiner maintains the rejection of the claims under 35 U.S.C. § 103(a) asserting again that it would have been obvious to "modify the hair styling composition of *Torgerson* by **substituting** the adhesive polymer with the adhesive copolymer [of *Yang*] comprising n-butyl acrylate/2-hydroxy ethyl (meth)acrylate/2-ethyl hexyl acrylate monomers as motivated by *Yang*," and that there would have been a "reasonable expectation of successfully producing clear shampoos and conditioners with hair styling properties." Answer at 5-6 (emphasis added). Appellants disagree.

As set forth in the Appeal Brief, Appellants respectfully submit that the rejection under § 103(a) is improper for at least the reasons that the references as a whole teach away from the combination as suggested by the Examiner and that there is no reasonable expectation of success, or predictability, in substituting the copolymer of *Yang* for the polymer of *Torgerson*. See Appeal Brief at 18-21.

In the Answer, the Examiner does not deny either that (i) *Torgerson* requires its polymers to contain (meth)acrylate amides, or (ii) the copolymers of *Yang* do not require such monomers. See Answer at 7. Rather, the Examiner states that the “expectation of success does not hinge on the use of [an] amide monomer because *Yang* already teaches the set of monomers which makes effective adhesive compounds.” Answer at 7.

The Examiner continues to ignore the fact that the proposed combination requires an impermissible modification of *Torgerson* that does not comply with *Torgerson*’s explicit required presence of (meth)acrylate amides in its adhesive polymers. Again, the Examiner’s modification is to **substitute** the adhesive polymer of *Torgerson* with the adhesive copolymer of *Yang*. See Answer at 5-6. *Torgerson*, however, teaches the use in hair styling hold compositions of low glass transition temperature adhesive copolymers of the general chemical structure $(H_x)_m-(L_y)_n$ with at least one H monomer being selected from acrylate amides or methacrylate amides. See *Torgerson* at col. 3, lines 25-34. And these acrylate amide or methacrylate amide monomers are not disclosed in *Yang*. To make the substitution proposed by the Examiner, i.e., substituting the copolymer of *Yang*, which is not formed from any (meth)acrylate amide monomers, for the polymer of *Torgerson*, which requires the

presence of (meth)acrylate amide monomers in its structure, goes against the explicit teachings of *Torgerson*. As such, one of ordinary skill in the art would not have been led to make the substitution proposed by the Examiner.

Additionally, the Examiner failed to provide any support for the previous statement that “there is teaching, suggestion, or motivation, either explicit or implicit, to exclude those [acrylate and methacrylate amide] polymers.” Final Office Action at 7. In fact, no such support exists in *Torgerson* as this reference requires the presence of the (meth)acrylate amide monomers. Since the prior art teaches away from the combination and modification proposed by the Examiner, Appellants submit that there is no motivation to substitute the copolymer of *Yang* for the polymer of *Torgerson*.

In addition to the fact that *Torgerson* requires the presence of (meth)acrylate amide monomers and no such monomers are disclosed in *Yang*, the disparity between the disclosed uses for *Torgerson*’s polymers and those of *Yang* must also be considered. *Torgerson* is directed to adhesive copolymers that are “particularly useful in hair styling products” and “for providing temporary set style hold,” defining such “temporary set” as “a temporary arrangement which can be **removed by water** or by shampooing.” *Torgerson* at col. 2, lines 14-19 and 60-61, and col. 1, lines 29-31 (emphasis added). In contrast, *Yang* is directed to adhesives that are designed “for use in decorative, light management or optical articles,” which are “**water-resistant**,” “**water-insensitive**,” and “resistant to the effects of high humidity.” See, e.g., *Yang* at col. 1, lines 8-9, col. 2, lines 58-60; col. 3, lines 1-6; col. 6, and lines 58-64 (emphasis added). Based on these divergent nature of the polymers in the two documents, and the divergent uses respectively disclosed therein, there can be no reasonable

expectation of success, or predictability, in combining the prior art of *Torgerson* and *Yang*. When the prior art teaches away from combining known elements, “discovery of successful means of combining them is more likely to be nonobvious.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 at 1740, 82 U.S.P.Q.2d 1385, 1395 (2007)

In the Answer, the Examiner states that the reasonable expectation of success does not hinge on the presence of an amide monomer, “because *Yang* already teaches the set of monomers which makes effective adhesive compounds.” See Answer at 7. In making this statement, the Examiner is ignoring the explicit teachings of *Torgerson*.

The Examiner’s conclusion ignores the fact that *Torgerson* provides no indication that polymers without (meth)acrylate amide monomers would be successful; In fact, the explicit teachings of *Torgerson* requiring (meth)acrylate amide monomers suggest exactly the opposite. The Examiner’s conclusion also provides no explanation of why one of ordinary skill in the art would find a reasonable expectation of success in using copolymers of *Yang*, which are suitable for placement on “flexible backing materials” and for “light management” (*Yang* at col. 1, lines 5-8 and col. 6, lines 29-32), in a hair styling composition. Given the teachings of the prior art, without the aid of the instant disclosure, one of ordinary skill in the art at the time of the instant invention would not have had a reasonable expectation of success in substituting the polymers of *Yang* into the hair styling composition of *Torgerson*.

Torgerson and *Yang* simply contain very divergent teachings. *Yang* teaches an adhesive copolymer that is suitable for “decorative, light management or optical articles” and does not contain (meth)acrylate amide monomers. *Yang* at Abstract. In contrast, *Torgerson* teaches that the adhesive copolymer require (meth)acrylate amide

monomers. *Torgerson* at Abstract; Appeal Brief at 18-21. The adhesives of *Yang* are “water-resistant” and “water-insensitive.” See, for example, *Yang* at col. 2, line 59, and col. 3, line 1. In contrast, the adhesive copolymers of *Torgerson* provide a temporary set that “can be removed by water or by shampooing.” *Torgerson* at col. 1, lines 30-31. Therefore, as *Yang* and *Torgerson* do not teach adhesive polymers of comparable uses, and *Yang* does not teach polymers with the required (meth)acrylate amide monomers of *Torgerson*, Appellants submit that there would have been no reasonable expectation of success in substituting the copolymer of *Yang* into *Torgerson*.

The rejection under 35 U.S.C. § 103 is therefore improper and should be reversed.

2) *Yang Does Not Indicate Functional Equivalence Of 2-Ethyl Hexyl Acrylate And 2-Hydroxy Ethyl (Meth)Acrylate*

In the Answer, the Examiner maintains that there is a functional equivalence between the monomers 2-ethyl hexyl acrylate and 2-hydroxy ethyl (meth)acrylate, and thereby continues to assert that it would have been within the skill of one in the art to combine these two monomers to make the copolymer of the instant invention. See Final Office Action at 7, and Answer at 7. The Examiner stated that the functional equivalence of these two monomers is because they are both used in adhesive copolymers, and because *Yang* teaches using 2-ethyl hexyl acrylate or 2-hydroxy ethyl (meth)acrylate, which indicates the functional equivalence of the monomers. See Answer at 7. Appellants disagree.

As set forth in the Appeal Brief, Appellants respectfully submit that the Examiner continues to fail to support the contention that the monomers 2-ethyl hexyl acrylate and 2-hydroxy ethyl (meth)acrylate are functionally equivalent. Appellants admit that each

of these monomers are taught as possibly present in an adhesive copolymer. See, for example, *Yang* at col. 2, lines 20-32 and *Torgerson* at col. 4, lines 38-39 and col. 15, lines 19-21. Mere presence of the separate monomers in an adhesive polymer, however, is not sufficient to establish that the monomers have the same function. Neither *Torgerson* nor *Yang* recognize that 2-ethyl hexyl acrylate and 2-hydroxy ethyl (meth)acrylate are functionally equivalent. *Torgerson* also fails to disclose the monomer 2-hydroxy ethyl (meth)acrylate, while *Yang* discloses only co-polymers containing 2-hydroxy ethyl (meth)acrylate and 2-ethyl hexyl acrylate. See Appeal Brief at 21-22.

In the Answer, the Examiner continues to incorrectly assert that *Yang* teaches 2-hydroxy ethyl (meth)acrylate or 2-ethyl hexyl acrylate. Notably, *Yang* only teaches 2-ethyl hexyl acrylate as an optional monomer in the copolymer of *Yang*, and not as a substitute for 2-hydroxy ethyl (meth)acrylate. *Yang* at col. 2, lines 20-40, particularly lines 39-40. The fact that the two monomers are listed as separate elements of the copolymer, with one being required (2-hydroxy ethyl (meth)acrylate) and the other being optional (2-ethyl hexyl acrylate), provides no indication that those skilled in the art would have expected those monomers to be functionally equivalent.

Appellants respectfully submit that equivalency must be demonstrated in order to support an obvious rejection based on combining equivalents known for the same purpose. As neither *Torgerson* nor *Yang* recognizes the equivalence between 2-ethyl hexyl acrylate and 2-hydroxy ethyl (meth)acrylate, the Examiner's reliance on the functional equivalence of these monomers is improper. Therefore, absent any indication of functional equivalence in the prior art, one of ordinary skill in the art would have lacked the guidance necessary to pick and choose from *Yang*'s numerous

disclosed monomers only those of relevance to the present invention. The rejection under 35 U.S.C. § 103 (a) is therefore improper and should be reversed.

3) *Neither Yang Nor Torgerson Teaches or Suggests Reshapable Effect Presently Claimed*

In the Answer, the Examiner maintains that the “recited reshapable effect of the composition that is made as motivated by the combined teachings of the references would have been immediately apparent to the skilled artisan.” Answer at 8. The Examiner stated that the reshapable effect “depends on the active components that make up the composition,” and that “the adhesive hair styling copolymer is taught and suggested by *Yang*.” *Id.* at 6 and 8. However, as previously indicated, *Yang* does not teach the copolymer composition of the instant claims, nor provides the guidance necessary to pick and choose from *Yang*’s numerous disclosed monomers only those of relevance to the present invention. See *supra* Section A.2

Furthermore, *Yang* teaches an adhesive that is water resistant, intended for placement on “flexible backing materials,” and for use in “decorative, light management or optical articles,” and “tapes, labels, decals, transfer tapes and other [pressure sensitive adhesive] articles.” *Yang* at col. 1, lines 5-8; col. 6, lines 29-32; and col. 7, lines 19-20. None of which are properties that indicate an adhesive having a reshapable effect in a hair styling composition. Since *Yang* does not teach the instantly claimed copolymer, and since *Yang* teaches an adhesive with greatly disparate properties, Appellants submit that it would not have been immediately apparent to the skilled artisan that the composition had the recited reshapable effect of the instantly claimed composition.

B. Claims 187-189, 199-201, 212-214, 224-226, 236-238, 249-251, 262-264, 274-276, 286-288, and 298-300 Are Patentable Over *Torgerson* in View of *Yang*

For the reasons set forth in Section A, Appellants submit that claims 187-189, 199-201, 212-214, 224-226, 236-238, 249-251, 262-264, 274-276, 286-288, and 298-300 are patentable over *Torgerson* in view of *Yang*. In addition, Appellants submit that the prior art references, when considered as a whole, would not have motivated one of ordinary skill in the art to prepare compositions comprising at least one (meth)acrylic copolymer crosslinked with at least one polyfunctional cross-linking agent, as recited in claims 187, 199, 212, 224, 236, 249, 262, 274, 286, and 298, and that the Examiner additionally has provided no such motivation for one of ordinary skill in the art to add a cross-linking agent to the composition of *Torgerson*.

In the Answer, the Examiner states that since *Torgerson* does not exclude cross-linked polymers, it would still have been obvious to modify the composition of *Torgerson* using the cross-linking agent as disclosed by *Yang*. See Answer at 8-9. Appellants disagree.

Torgerson teaches an adhesive copolymer that is substantially linear, “having little or no cross-linking or branching of the copolymer chains.” *Torgerson* at col. 3, lines 46-52. Thus, while *Torgerson* does not exclude a cross-linked polymer, consideration of this document as a whole teaches away from using a cross-linking agent to intentionally cross-link the polymer. Therefore Appellants submit that substituting the optional cross-linking agent of *Yang* into the composition of *Torgerson* would be an impermissible modification of *Torgerson* that goes against the teachings of *Torgerson* as a whole. One of ordinary skill in the art at the time of the invention would therefore

have had no motivation to use a cross-linking agent in the composition of *Torgerson*. In addition, the Examiner has provided no such motivation, supporting the modification solely on the basis that *Torgerson* has not excluded cross-linked polymers. Lack of exclusion of cross-linked polymers cannot substitute for motivation to add a cross-linking agent.

III. Conclusion

In view of the foregoing arguments as well as the arguments set forth in the Appeal Brief filed August 5, 2008, Appellants respectfully submit that the pending claims are allowable. Appellants respectfully request reversal of the outstanding § 103(a) rejection over *Torgerson* in view of *Yang*.

To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this Reply Brief, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, please charge such fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: December 29, 2008

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